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Utah's 1992 Fuelwood Harvest

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The Author

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Research Summary

The estimated fuelwood harvest in Utah in 1992 was 63,633 cords (5 million cubic feet). The fuelwood harvest volume was 41 percent as large as the volume of timber harvested for industrial use (industrial roundwood harvest). The volume of live timber trees harvested for fuelwood was 320 cords (25.6 thousand cubic feet), less than 1 percent of the total 1992 harvest of roundwood products in Utah.

Acknowledgments

We appreciate the cooperation of the following groups in supplying data for this report:

1. The owners and operators of Utah's primary wood processing industries.
2. The commercial fuelwood operators of Utah and Wyoming who responded to our inquiries.
3. The members of the 400 households sampled in the State who provided data.
4. The staffs of the many Ranger Districts and National Forests in Utah and the staff of the Regional Office of the Intermountain Region, Forest Service, U.S. Department of Agriculture, for supplying us with information and referrals.

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Background

The Interior West Resource Inventory, Monitoring, and Evaluation Program at the Intermountain Research Station is charged with making comprehensive surveys and analyses of the forest resource situation in the Interior West States (fig. 1). Periodic annual estimates and descriptions of wood harvests are part of this mission.

Harvest data for calendar year 1992 were collected in Utah in 1993 to coincide with the forest inventory of the State. The inventory provided the data to estimate and describe the volume, growth, and mortality of the forests' trees. The harvest data are used to assess and describe changes in the State's forest inventory due to logging and related activities. The fuelwood harvest, one segment of tree harvesting, is the focus of this report.

Figure 1—States of the Interior West.

Survey Procedures

Fuelwood harvest data were collected from two distinct groups—commercial operators and households. Commercial operators harvest fuelwood and other roundwood products to sell to consumers or retail outlets. Members of households harvest fuelwood for personal use. These two populations were surveyed in different ways.

Commercial Operators

Personnel of the Bureau of Business and Economic Research, University of Montana, canvassed primary wood processing plants, such as sawmills. Personnel of the Interior West Resource Inventory, Monitoring, and Evaluation Program at Intermountain Research Station canvassed individuals and businesses identified from bidder's lists as potential commercial operators. These lists were supplied by personnel of the National Forests in Utah.

Primary wood processing plants reported receiving no fuelwood in 1992. Although some was generated as mill residue, this was not included in fuelwood harvest estimates. Use of mill residue is found in Utah's timber production and mill residue publication (McLain and others, in preparation).

Approximately 375 questionnaires were sent to potential commercial operators. Sixteen reported harvesting; 74 reported no harvest or reported more complex operations to be included in the primary wood processing plant canvass; 261 did not respond, and 24 mailed questionnaires were nondeliverable.

Personal Use Fuelwood Harvest

Personal use fuelwood harvest estimates were obtained by surveying residents of 400 households in Utah. The population sampled consisted of all residential listings in all Utah telephone books. A random number generator was used to select the sample, which was distributed throughout the telephone books in proportion to the number of households within the books. Copies of the program used to select the actual sample are available from the Inventory, Monitoring, and Evaluation Program, Intermountain Research Station.

Of the 400 households surveyed in the State, 25 reported fuelwood harvests for 1992. The other 375

reported no harvests. The fuelwood volume was reported in cords and converted to cubic feet using 80 ft^3/cord, the standard Forest Service conversion rate.

Results

In 1992 an estimated 63,633 cords, or over 5 million cubic feet, of fuelwood were harvested in Utah (tables 1 to 6). The amount of fuelwood cut equals about 41 percent of the 1992 Utah timber harvest for industrial use, or 12.5 million cubic feet (McLain and others, in preparation).

The 1992 fuelwood harvest was not a significant drain on the growing-stock inventory of Utah's forests, nor does it appear to have been in direct competition with the forest products industry for wood fiber. This is because most of the fuelwood harvest was dead trees

Table 1–Fuelwood harvest by species and owner, Utah, 1992.

Species	Owner					Total[a]
	National Forest	BLM	County and municipal	Private	Nonforest	
	Cords					
Subalpine fir	–	1,455	–	–	–	1,455
Utah juniper	1,463	777	–	1,540	–	3,780
Engelmann spruce	1,456	–	–	(b)	–	1,456
Pinyon	12	24	–	812	–	848
Lodgepole pine	8,810	50	2,909	3,029	–	14,798
Ponderosa pine	17,464	4,364	–	(b)	–	21,828
Douglas-fir	3	–	–	530	–	533
Bigtooth maple	364	–	–	–	–	364
Mountain mahogany	364	–	–	–	–	364
Black walnut	–	–	–	–	3,636	3,636
Cottonwood	1,455	–	–	727	2,182	4,364
Aspen	6	–	–	493	–	499
Gambel oak	–	–	–	500	–	500
Fruitwood	–	–	–	–	9,208	9,208
Total[a]	31,397	6,670	2,909	7,631	15,026	63,633

[a]Data may not sum to totals due to rounding or truncating.
[b]Less than 1 cord.

Table 2–Fuelwood harvest by species and county group, Utah, 1992.

Species	County group		Total[a]
	North	South	
	Cords		
Subalpine fir	–	1,455	1,455
Utah juniper	1,590	2,190	3,780
Engelmann spruce	–	1,456	1,456
Pinyon	89	759	848
Lodgepole pine	13,343	1,455	14,798
Ponderosa pine	–	21,828	21,828
Douglas-fir	480	53	533
Bigtooth maple	364	–	364
Mountain mahogany	364	–	364
Black walnut	3,636	–	3,636
Cottonwood	2,909	1,455	4,364
Aspen	480	19	499
Gambel oak	480	20	500
Fruitwood	9,208	–	9,208
Total[a]	32,943	30,690	63,633

[a]Data may not sum to totals due to rounding or truncating.

Table 3–Fuelwood harvest by owner and county group, Utah, 1992.

Owner	County group		Total[a]
	North	South	
	Cords		
National Forest	8,083	23,314	31,397
BLM	104	6,566	6,670
County and municipal	2,909	–	2,909
Private	6,821	810	7,631
Nonforest	15,026	–	15,026
Total[a]	32,943	30,690	63,633

[a]Data may not sum to totals due to rounding or truncating

Table 4–Fuelwood harvest by species and owner, Utah, 1992.

Species	Owner					Total[a]
	National Forest	BLM	County and municipal	Private	Nonforest	
	Thousand cubic feet					
Subalpine fir	–	116	–	–	–	116
Utah juniper	117	62	–	123	–	302
Engelmann spruce	116	–	–	([b])	–	116
Pinyon	1	2	–	65	–	68
Lodgepole pine	705	4	233	242	–	1,184
Ponderosa pine	1,397	349	–	([b])	–	1,746
Douglas-fir	([b])	–	–	42	–	43
Bigtooth maple	29	–	–	–	–	29
Mountain mahogany	29	–	–	–	–	29
Black walnut	–	–	–	–	291	291
Cottonwood	116	–	–	58	175	349
Aspen	([b])	–	–	39	–	40
Gambel oak	–	–	–	40	–	40
Fruitwood	–	–	–	–	737	737
Total[a]	2,512	534	233	610	1,202	5,091

[a]Data may not sum to totals due to rounding or truncating.
[b]Less than 500 cubic feet.

Table 5–Fuelwood harvest by species and county group, Utah, 1992.

Species	County group		Total[a]
	North	South	
	Thousand cubic feet		
Subalpine fir	–	116	116
Utah juniper	127	175	302
Engelmann spruce	–	116	116
Pinyon	7	61	68
Lodgepole pine	1,067	116	1,184
Ponderosa pine	–	1,746	1,746
Douglas-fir	38	4	43
Bigtooth maple	29	–	29
Mountain mahogany	29	–	29
Black walnut	291	–	291
Cottonwood	233	116	349
Aspen	38	2	40
Gambel oak	38	2	40
Fruitwood	737	–	737
Total[a]	2,635	2,455	5,091

[a]Data may not sum to totals due to rounding or truncating.

Table 6–Fuelwood harvest by owner and county group, Utah, 1992.

Owner	County group		Total[a]
	North	South	
	Thousand cubic feet		
National Forest	647	1,865	2,512
BLM	8	525	534
County and municipal	233	–	233
Private	546	65	610
Nonforest	1,202	–	1,202
Total[a]	2,635	2,455	5,091

[a]Data may not sum to totals due to rounding or truncating

(fig. 2; tables 7, 8) or trees not used to manufacture products, such as pinyon (*Pinus edulis*), juniper (*Juniperus osteosperma*), fruit trees, and miscellaneous hardwoods such as bigtooth maple (*Acer grandidentatum*), Gambel oak (*Quercus gambelii*), and mountain mahogany (*Cercocarpus ledifolius*) (tables 9, 10).

The fuelwood harvest of standing live trees of species used to manufacture products (timber species), was estimated at only 320 cords, or 25.6 thousand cubic feet. This is less than 1 percent of the total fuelwood harvest of 5,091 thousand cubic feet, and less than 1 percent of the roundwood harvest of live timber trees, 8,616 thousand cubic feet. Of the remaining 63,313 cords of fuelwood harvested, 42,431 cords were from dead trees of timber species, and 20,882 cords were from nontimber trees or nonforest land, such as orchards, parks, urban areas, and windbreaks.

Over 99 percent of the fuelwood was cut for personal consumption. Commercial operators reported harvesting only 121 cords.

Ponderosa pine (*Pinus ponderosa*) accounted for 34 percent of the harvest with 21,828 cords or 1,746 thousand cubic feet, followed by lodgepole pine (*Pinus contorta*), and fruitwood (tables 1, 2, 4, 5; fig. 3).

It is estimated that 49 percent of the fuelwood harvest came from National Forest lands. Nonforest lands, such as orchards and parks, provided 24 percent, and 12 percent came from private land. Other public lands provided the remaining 15 percent (tables 1, 3, 4, 6).

The size and distribution of the sample were deemed appropriate to obtain State-level statistics. However, the sample was insufficient to assess fuelwood harvest volumes at the county level with reasonable confidence. For instance, our sampling picked up no harvest in some counties where we assume some occurred. Recognizing the limitations, harvest volumes by county are not presented. Rather, the data are presented in table form for Northern and Southern Utah (fig. 4; tables 2, 3, 5, 6).

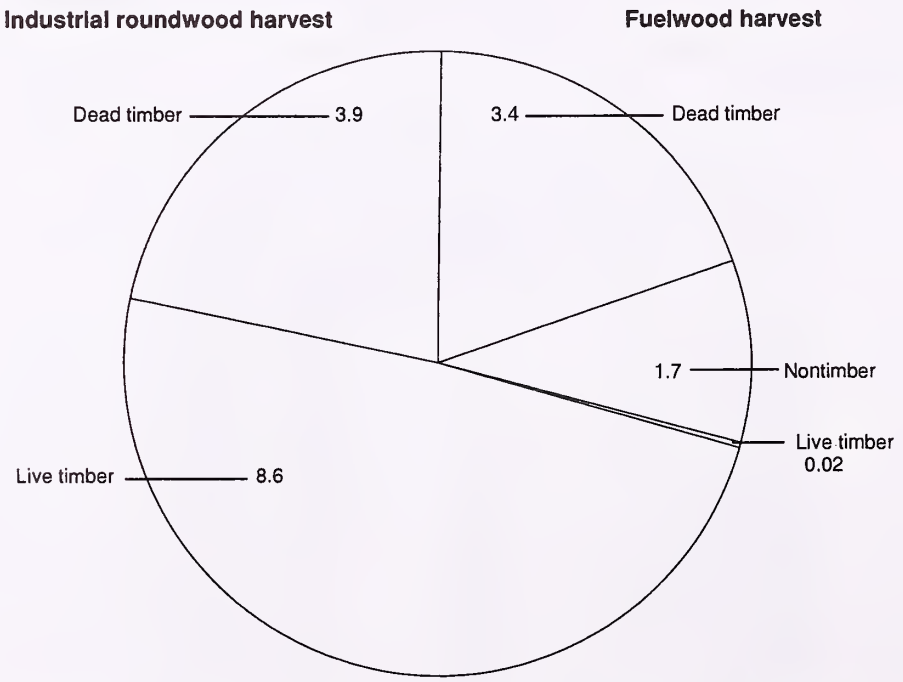

Figure 2—A comparison of the tree class composition of the fuelwood harvest and the industrial roundwood harvest in Utah, 1992, in million cubic feet.

Table 7–Fuelwood harvest of timber species by species and owner and live and salvable dead, Utah, 1992.

Species	Owner[a]												Total[b]		
	National Forest			BLM			County and municipal			Private					
	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total
	Cords														
Subalpine fir	–	–	–	(c)	1,455	1,455	–	–	–	–	–	–	(c)	1,455	1,455
Engelmann spruce	(c)	1,456	1,456	–	–	–	–	–	–	(c)	(c)	(c)	(c)	1,456	1,456
Lodgepole pine	295	8,515	8,810	(c)	50	50	(c)	2,909	2,909	24	3,005	3,029	319	14,479	14,798
Ponderosa pine	(c)	17,464	17,464	(c)	4,364	4,364	–	–	–	(c)	(c)	(c)	(c)	21,828	21,828
Douglas-fir	(c)	3	3	–	–	–	–	–	–	(c)	530	530	(c)	533	533
Cottonwood	(c)	1,455	1,455	–	–	–	–	–	–	(c)	727	727	(c)	2,182	2,182
Aspen	(c)	6	6	–	–	–	–	–	–	1	492	493	1	498	499
Total[b]	295	28,899	29,194	(c)	5,869	5,869	(c)	2,909	2,909	25	4,754	4,779	320	42,431	42,751

[a]Ownership category of land where fuelwood was harvested.
[b]Data may not sum to totals due to rounding or truncating.
[c]Less than 1 cord.

Table 8–Fuelwood harvest of timber species from forest land by species and owner and live and salvable dead, Utah, 1992.

Species	Owner												Total[a]		
	National Forest			BLM			County and municipal			Private					
	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total	Live	Dead	Total
	Thousand cubic feet														
Subalpine fir	–	–	–	(b)	116	116	–	–	–	–	–	–	(b)	116	116
Engelmann spruce	(b)	116	116	–	–	–	–	–	–	(b)	(b)	(b)	(b)	116	116
Lodgepole pine	24	681	705	(b)	4	4	(b)	233	233	2	240	242	26	1,158	1,184
Ponderosa pine	(b)	1,397	1,397	(b)	349	349	–	–	–	(b)	(b)	(b)	(b)	1,746	1,746
Douglas-fir	(b)	(b)	(b)	–	–	–	–	–	–	(b)	42	42	(b)	43	43
Cottonwood	(b)	116	116	–	–	–	–	–	–	(b)	58	58	(b)	175	175
Aspen	(b)	(b)	(b)	–	–	–	–	–	–	(b)	39	39	(b)	40	40
Total[a]	24	2,312	2,336	(b)	470	470	(b)	233	233	2	380	382	26	3,394	3,420

[a]Data may not sum to totals due to rounding or truncating.
[b]Less than 500 cubic feet.

Table 9–Fuelwood harvest of timber species from nonforest land and nontimber species by species and owner, Utah, 1992.

Species	Owner				
	National Forest	BLM	Private	Nonforest[a]	Total[b]
	Cords				
Utah juniper	1,463	777	1,540	–	3,780
Pinyon	12	24	812	–	848
Bigtooth maple	364	–	–	–	364
Mountain mahogany	364	–	–	–	364
Black walnut	–	–	–	3,636	3,636
Cottonwood	–	–	–	2,182	2,182
Gambel oak	–	–	500	–	500
Fruitwood	–	–	–	9,208	9,208
Total[b]	2,203	801	2,852	15,026	20,882

[a]Nonforest - orchards, parks, urban areas, and wind breaks.
[b]Data may not sum to totals due to rounding or truncating.

Table 10–Fuelwood harvest of timber species from nonforest land and nontimber species by species and owner, Utah, 1992.

Species	Owner				
	National Forest	BLM	Private	Nonforest[a]	Total[b]
	Thousand cubic feet				
Utah juniper	117	62	123	–	302
Pinyon	1	2	65	–	68
Bigtooth maple	29	–	–	–	29
Mountain mahogany	29	–	–	–	29
Black walnut	–	–	–	291	291
Cottonwood	–	–	–	175	175
Gambel oak	–	–	40	–	40
Fruitwood	–	–	–	737	737
Total[b]	176	64	228	1,202	1,671

[a]Nonforest - orchards, parks, urban areas, and wind breaks.
[b]Data may not sum to totals due to rounding or truncating.

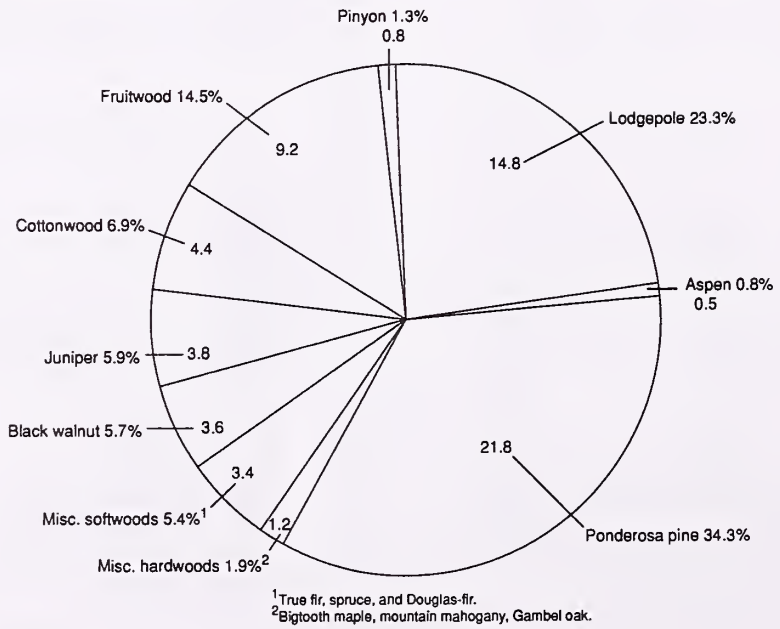

Figure 3—Species distribution of the fuelwood harvest in Utah, 1992, in thousand cords.

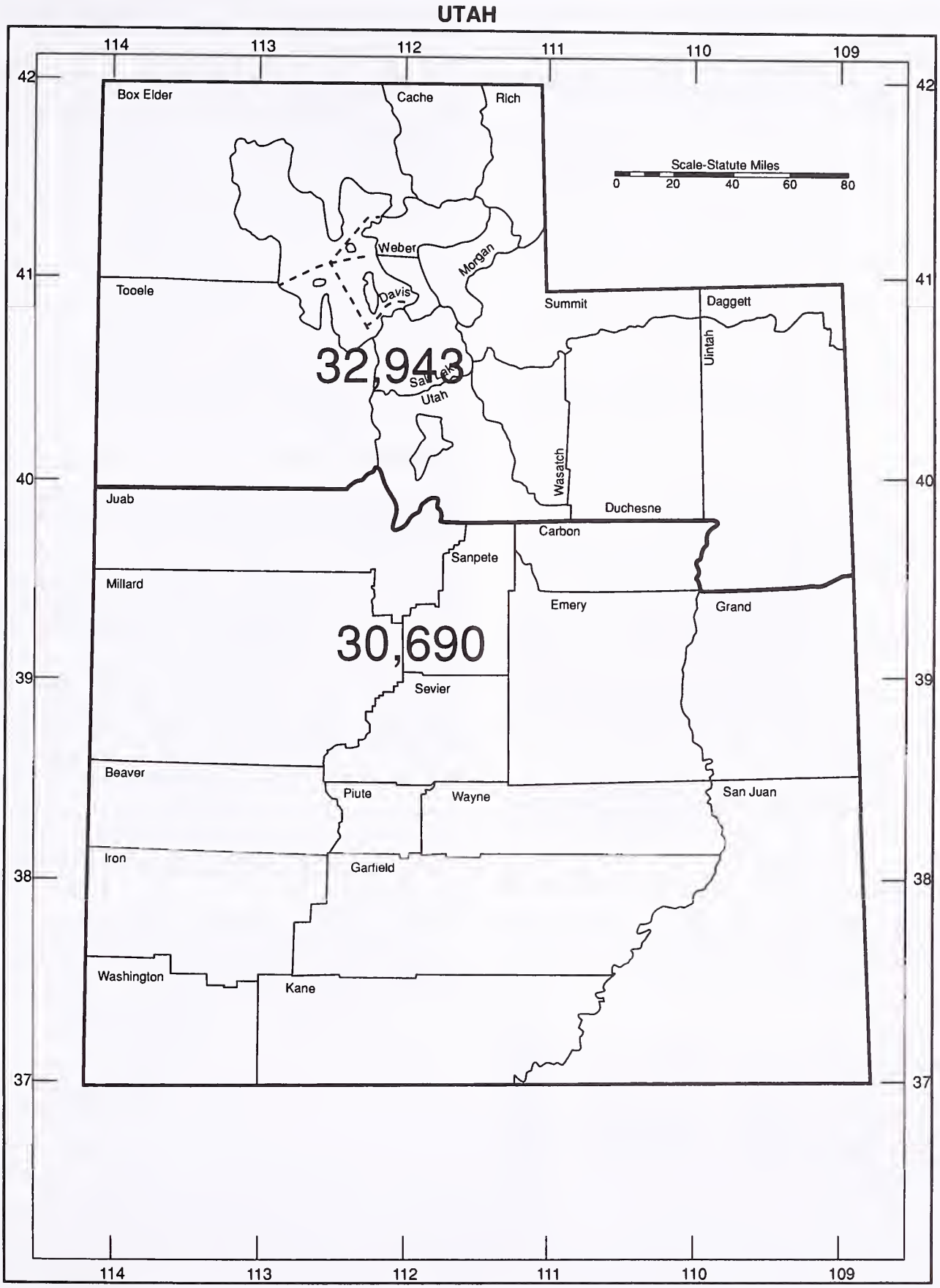

Figure 4—Fuelwood harvest in northern and southern Utah, in cords, 1992.

Expansion Of Household Sample

The following procedure was used to expand the sample statistics to obtain the estimate of the total volume of fuelwood harvested by all the households in Utah.

n = number of households in sample

nc = number of households in sample that harvested fuelwood

ΣX = reported harvest by nc in cords

$\overline{X} = \frac{\Sigma X}{nc}$; mean harvest, in cords, by nc

N = estimated number of households in all Utah telephone books

$NC = N(\frac{nc}{n})$; estimated number of households in Utah phone books cutting fuelwood

VOL = estimated volume of fuelwood harvested by N

$VOL = NC(\overline{X})$

P = Bureau of Census estimate of the number of households in Utah

K = population adjustment factor; used to expand the estimate of harvest by the households in the telephone books to the estimate of harvest by all households in Utah

$K = \frac{P}{N}$

$TOT\ VOL$[1] = estimate of the total volume harvested by households in Utah for personal consumption

$TOT\ VOL = VOL(K)$

or

$TOT\ VOL = \frac{P}{n}(\Sigma X)$

[1]This is not necessarily the volume harvested in Utah. Some of the fuelwood harvest reported by the population sampled took place in adjacent States. These "outside" harvest volumes were included in calculations of the mean ($\overline{X}$) and are thus included in all computations involving $\overline{X}$. This does not, however, affect the calculation of the harvest volume in Utah.

The volumes reported in the cells of tables 1 through 6 were found by multiplying reported volumes by the expansion factor:

$$\text{Expansion factor} = \frac{TOT\ VOL}{\Sigma X} = \frac{P}{n}$$

For the 1992 harvest of fuelwood by households, the following were computed:

n = 400
nc = 25
$\overline{X}$ = 1.7328
N = 649,880
NC = 40,617.5
VOL = 70,382
P = 581,853
K = .895323
$TOT\ VOL$ = 63,014.6 cords

Expansion factor = 1,454.63

Standard Error

The variances, standard errors, and confidence intervals of the estimates of the total volumes harvested by households were found as follows:

VAR = variance of the volume harvested by the sample; computed using the number of households that harvested (nc)

$VAR\ TOT\ VOL$ = variance of the total volume

$$VAR\ TOT\ VOL = \left[\frac{\overline{X}^2(NC)(N-NC)}{n} + \frac{(NC)^2(VAR)}{nc}\right]\left(K^2\right)$$

Std. error $TOT\ VOL$ = standard error of the total volume

$$= \sqrt{VAR\ TOT\ VOL}$$

For 95 percent confidence interval of the estimate of the total volume:

$TOT\ VOL \pm 2$ (std. error $TOT\ VOL$)

For the 1992 harvest of fuelwood by households, the following statistics were calculated:

$VAR\ TOT\ VOL$ = 205,030,736 cords

Std. error $TOT\ VOL$ = 14,319 cords

95 percent confidence interval = ±28,638 cords (±45.4 percent)

Terminology

Commercial fuelwood operators—Those who harvest fuelwood to sell to dealers or consumers. Includes loggers who harvest fuelwood along with sawlogs and other products.

Cord—A stack of wood equivalent to 128 cubic feet of wood and air space having standard dimensions of 4 by 4 by 8 feet. A conversion factor of 80 cubic feet of solid wood per cord is used in this report.

Forest lands—Lands at least 10 percent stocked by forest trees of any size, including lands that formerly had such tree cover and will be naturally or artificially regenerated. The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if less than 120 feet wide.

Fuelwood production—Fuelwood harvest. The fuelwood portion of roundwood production. The fuelwood volume of roundwood products.

Growing-stock (volume)—The net cubic-foot volume of wood in live trees from a stump 1 foot high to 4.0-inch diameter top, outside bark. Such trees must be timber trees, traditionally harvested for lumber products (excludes pinyon, juniper, ornamentals, and fruit trees), with a central stem at least 5 inches in diameter at breast height (d.b.h.), and must meet specified standards of quality and vigor. Cull trees are excluded.

Industrial roundwood production—The conversion of trees into industrial roundwood products. The volume of industrial roundwood products resulting from harvest.

Industrial roundwood products, or industrial wood products, or industrial roundwood, or timber products—Includes sawlogs, pulpwood bolts or logs, house logs, veneer logs, utility poles, building poles, corral poles, posts, excelsior bolts, ties, mine timbers, and pilings. Does not include fuelwood.

Nonforest lands—Lands not qualifying as forest lands. In this publication, references to nonforest lands mean orchards, parks, urban areas, and windbreaks.

Nontimber trees—Nontimber tree species are pinyon, juniper, and all hardwood species except cottonwood, aspen, and paper birch.

Primary wood processing industry (or plants)—Generally, includes sawmills; fiber board, veneer, and plywood plants; pulp mills; house log plants; post and pole yards; post and pole treating plants; excelsior plants; tie yards; and producers of pilings.

Roundwood production—The production of industrial roundwood and fuelwood. The conversion of trees into roundwood products. The volume of roundwood products resulting from harvest.

Roundwood products or roundwood—Includes sawlogs, pulpwood bolts or logs, house logs, veneer logs, utility poles, building poles, corral poles, posts, excelsior bolts, ties, mine timbers, pilings, and fuelwood. Differs from industrial roundwood products because roundwood products include fuelwood.

Timber production—Timber products; same as industrial roundwood products or industrial roundwood production. Does not include fuelwood.

Timber species—Those tree species traditionally harvested for timber products, such as ponderosa pine, Douglas-fir, lodgepole pine, cottonwood, aspen, and paper birch. Excludes pinyon, juniper, and miscellaneous hardwoods such as oaks, shade trees, ornamentals, and fruit trees.

Reference

McLain, William H.; Keegan, Charles E., III; Wichman, Daniel P. [In preparation]. Utah's timber production and mill residue, 1992. Resour. Bull. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station.

Appendix: Utah Directory of Commercial Firewood Cutters

County	Firewood cutter
Emery	Dingman Lumber Company P.O. Box 873 Huntington, UT 84528 (801) 687-9459 Norman Dingman, Owner
Garfield	Dell Roy Davis P.O. Box 91 Escalante, UT 84726 Location: 482 E. Main St, Escalante, UT (801) 826-4686
Iron	Southern Utah Tree Service & Fuelwood P.O. Box 36 St. George, UT 84771-0036 Location: 3308 Bulldog Rd, Cedar City, UT 84720 (801) 674-7619 John Woodbury, Owner
Summit	Scow Forest Products P.O. Box 314 Park City, UT 84060-0314 Location: 2056 W. Rassmussan Rd, Park City, UT (801) 649-0331 Dann Scow, Owner
Uintah	Brush Creek Wood Cutters P.O. Box 1854 Vernal, UT 84078 Location: 9051 Brush Creek, Jensen, UT (801) 790-5186/(801) 722-5130 Kyle Stringham, Owner
Uintah	R. J. Gill 251 N. 200 E. #8 Vernal, UT (801) 789-6748
Wayne	Richard Jensen 2550 S. 200 W. P.O. Box 203 Bicknell, UT 84715 Location: River Road, Torrey, UT (801) 425-3489
Wayne	Loa Sawmill Inc. 374 West Main Lyman, UT 84749 Location: Loa, UT (801) 836-2894 Vernon W. Oldroyd, Mgr.
Carbon, WY	Kent Braun Logging P.O. Box 242 Encampment, WY 82325 (307) 327-5771 Kent Braun, Owner
Fremont, WY	Camas Creek Log Works P.O. Box 1245 Dubois, WY 82513-1245 (307) 455-3439 Tim J. Rogers, Owner
Lincoln, WY	Bill's Tree Service P.O. Box 471 Diamondville, WY 83116 (307) 877-6535
Uinta, WY	Ayres & Baker Pole & Post Inc. P.O. Box 610 Mountainview, WY 82939 (307) 782-3170 Larry Ayres/Alvin Baker, Owners

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Resource Bulletin INT-RB-87

Utah's Forest Products Industry: A Descriptive Analysis, 1992
by Charles E. Keegan III, Daniel P. Wichman, and Dwane D. Van Hooser (September 1995)
Resource Bulletin INT-RB-83

The Westwide Forest Inventory Data Base: User's Manual
by Sharon W. Woudenberg and Thomas O. Farrenkopf (June 1995)
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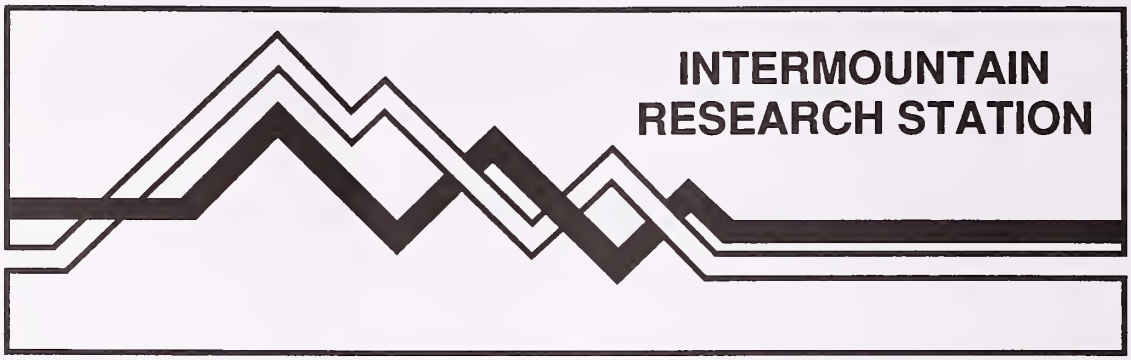
McLain, William H. 1997. Utah's 1992 fuelwood harvest. Resour. Bull. INT-RB-89. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 10 p.

Highlights the 1992 harvest of fuelwood in Utah by commercial fuelwood harvesters and those cutting for home consumption. Presents harvest volumes by species, county, and owner. Contains a list of commercial fuelwood harvesters and describes methods of data collection and compilation.

Keywords: firewood, household fuelwood harvest, commercial fuelwood harvest



The Intermountain Research Station provides scientific knowledge and technology to improve management, protection, and use of the forests and rangelands of the Intermountain West. Research is designed to meet the needs of National Forest managers, Federal and State agencies, industry, academic institutions, public and private organizations, and individuals. Results of research are made available through publications, symposia, workshops, training sessions, and personal contacts.

The Intermountain Research Station territory includes Montana, Idaho, Utah, Nevada, and western Wyoming. Eighty-five percent of the lands in the Station area, about 231 million acres, are classified as forest or rangeland. They include grasslands, deserts, shrublands, alpine areas, and forests. They provide fiber for forest industries, minerals and fossil fuels for energy and industrial development, water for domestic and industrial consumption, forage for livestock and wildlife, and recreation opportunities for millions of visitors.

Several Station units conduct research in additional western States, or have missions that are national or international in scope.

Station laboratories are located in:

Boise, Idaho

Bozeman, Montana (in cooperation with Montana State University)

Logan, Utah (in cooperation with Utah State University)

Missoula, Montana (in cooperation with the University of Montana)

Moscow, Idaho (in cooperation with the University of Idaho)

Ogden, Utah

Provo, Utah (in cooperation with Brigham Young University)

Reno, Nevada (in cooperation with the University of Nevada)